

Double J stent migration imitating premature membrane rupture during pregnancy

Engin Korkmazer¹, İsmail Özdemir², Neşe Solak³

¹Gynecology and Obstetrics Clinic, Bursa High Specialty Training and Research Hospital, Bursa, Turkey

²Urology Clinic, Private Medical Park Uşak Hospital, Uşak, Turkey

³Gynecology and Obstetrics Clinic, Private Medical Park Uşak Hospital, Uşak, Turkey

Abstract

Objective: Pregnancy is a condition affecting both kidneys and urinary system. Bladders grow about 30% in volume and 1 to 1.5 cm in dimension during pregnancy. The extension in renal pelvicalyceal structures is seen more in the right bladder than the left one, and it is observed in 80% of the pregnant women. Cystoscopy and placement of urethral stent are the main treatment method for serious hydronephrosis seen during the pregnancy. Stent migration is one of the complications of urethral stents. In this report, we present the double J stent migration found in a patient who admitted to our clinic due to water breaking when she was at 32 weeks of gestation.

Case: A 29-year-old G3Y2 case referred to our clinic with the suspicion of preterm rupture of membrane at 32 weeks of gestation. In the examination performed, it was seen that double J stent was hanging out of the urethra and the tail of the stent was in the bladder according to ultrasonographic imaging.

Conclusion: Urinary incontinence should be kept in mind particularly in cases with negative clinical and laboratory findings for premature rupture of membrane.

Keywords: Double J stent, premature rupture of membrane, pregnancy.

Özet: Gebelikte prematür membran rüptürünü taklit eden double J stent migrasyonu

Amaç: Gebelik, her iki böbreği ve üriner sistemi etkileyen bir durumdur. Gebelik boyunca böbrekler hacim olarak yüzde 30 ve boyut olarak da 1 ila 1.5 cm civarında büyürler. Renal pelvikalisel yapılarda genişleme sağ böbrekte sola göre daha sık görülmekte ve gebelerin %80'inde bulunmaktadır. Sistoskopi ve üreteral stent yerleştirilmesi, gebelikte görülen ciddi hidronefrozun ana tedavi yöntemidir. Stent migrasyonu, üreteral stentlerin komplikasyonlarından biridir. Bu yazıda, 32 hafta gebeliği varken sularının gelmesi nedeniyle kliniğimize sevk edilen bir hastada saptanan double J stent migrasyonunu sunduk.

Olgu: Yirmi dokuz yaşında, G3Y2 olan, 32. haftada erken membran rüptürü şüphesiyle başvuran hastanın muayenesinde double J stentin üretradan dışarı sarktığı ve ultrasonografi görüntülemesinde stentin kuyruğunun mesanede olduğu görüldü.

Sonuç: Erken membran rüptürü açısından negatif klinik ve laboratuvar bulguları olan olgularda üriner inkontinans özellikle akıldan bulundurulmalıdır.

Anahtar sözcükler: Gebelik, double J stent, erken membran rüptürü.

Introduction

Pregnancy is a process affecting entire urinary system, kidneys in particular. During pregnancy, the dimension of kidney increases about 1-1.5 cm while kidney volume increases about 30%.^[1]

Renal pelvis and calyceal structures may be dilated with progesterone effect and the pressure of uterus on

ureters. This dilatation creates a reservoir for urinary stasis bacteria and may lead to clinical conditions which may result with pyelonephritis. While delivery is the definite treatment of this condition, placing double J stent (DJS) during the early weeks of gestation can be applied as a palliative solution. DJS' are widely used for the treatment of hydronephrosis associated with pregnancy in the

Correspondence: Engin Korkmazer, MD. Bursa Yüksek İhtisas Eğitim ve Araştırma Hastanesi Kadın Hastalıkları ve Doğum Kliniği, Bursa, Turkey.
e-mail: ekorkmazer@yahoo.com

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world.^[2] The most common complications of implanting DJS are side pain, urinary system infection and hematuria as well as rare stent migration.^[3]

Preterm premature rupture of membrane (PPROM) is defined as the rupture of amniotic membranes before uterine contractions start. Other conditions (urinary incontinence, vaginal discharge etc.) should be evaluated to explain vaginal wetness in cases where negative clinical and laboratory findings of PPRM are present.

The rates of sudden urge to urinate and urinary incontinence increase during pregnancy and this may imitate PPRM.^[4] In this report, we discussed DJS migration found in a patient who admitted to our clinic due to water breaking when she was at 32 weeks of gestation.

Case Report

Twenty-nine-year-old G3Y2 case referred to our clinic with the suspicion of side pain at 27 weeks of gestation.

Previous pregnancies of the patient were completed without any complication. Urinary analysis performed at antenatal visit was normal. Her current pregnancy proceeded without any problem until 27 weeks of gestation. Following the physical examination and urinary analyses, renal ultrasound examination was requested for the patient. Grade 3 hydro-uretero-nephrosis was found on the right kidney during renal ultrasound but no urinary stone was detected. After the consultation with urology department, it was decided to implant DJS to the patient.

Cystourethroscopy was done under local anesthesia to the patient taken to the table in dorsal lithotomy position. 5 FR double J catheter was implanted by placing to renal pelvis from one end above the guide wire. The patient was discharged in the same postoperative day.

The patient referred to our clinic due to the complaint of water breaking at 32 weeks of gestation.

An inflammatory leakage in the vagina was detected in the examination, but there was no flow from cervical canal. While the nitrazine test yielded negative result, amniotic fluid index was within normal limits in the ultrasonographic imaging. In the examination performed, it was seen that double J stent was hanging out of the urethra and the tail of the stent was in the bladder according to ultrasonographic imaging (**Fig. 1**).

As a result of the urology consultation, it was decided to replace double J stent of patient and new stent was implanted without any problem after current stent was removed.

No additional problem occurred in the following periods of the patient and the delivery was done by cesarean section at 39 weeks of gestation due to previous cesarean. Double J stent of the patient was pulled out under local anesthesia in the follow-up visit done 3 month after the delivery.

Discussion

The dilatation of renal pelvicalyceal structures (hydronephrosis) is seen in 80% of the pregnancies and they are more frequently seen on the right side than the left side.^[5] These changes generally arise during the second trimester (at about 24–29 weeks) and may continue up to postpartum 6–12 weeks.^[6] There is no consensus for the treatment of hydronephrosis, which is seen frequently during pregnancy, between the conservative approach and DJS implantation.^[7] Week of pregnancy, presence of renal stone and pyelonephritis presence have a significant role in evaluating treatment options. Implanting DJS is recommended in cases where renal dysfunction or daily pain symptom occur. Ultrasound guiding is preferred instead of conventional scopy for implanting DJS during pregnancy. Thanks to the ultrasound, renal pelvis placement of DJS can be seen easily.^[8] Urinary incontinence rate increases together with pregnancy. This problem is resolved by itself after delivery in most of the patients with the complaint of urinary incontinence during pregnancy.^[9]

The diagnosis of PPRM is usually established clinically and it is based on the observation of amniotic fluid coming from cervical canal to vagina during the exami-



Fig. 1. Double J stent hanging out of urethra.

nation in a patient admitted for vaginal wetness. In cases where definitive diagnosis cannot be established clinically, laboratory tests help the diagnosis. Evaluating amniotic fluid index by ultrasound may be normal during early periods although it is a cheap and easily accessible method that may be used for the diagnosis of PPROM. Additional tests such as placental alpha microglobulin-1 protein assay (PAMG-1 [AmniSure]), insulin-like growth factor binding protein 1 (IGFBP-1 [Actim PROM]) and nitrazine test may be used. While nitrazine test is the most common test used widely, its false positivity and false negativity rates are higher than other tests. While the tests such as PAMG-1 and IGFBP-1 have high accuracy rates, they are used in cases where the diagnosis is not clear due to the costs and amniotic fluid ponding is not observed.

DJS migration is a rare condition but migration is seen even towards vena cava.^[5] Possible mechanisms during migration are considered to be urethral contractions and using DJS with inappropriate thickness.^[10] It is required to remove DJS in one third of the patients implanted DJS due to the reasons such as migration, urinary discomfort, infection etc. Symptoms vary in a patient with DJS migration (side pain, repeating urinary system infections, urinary incontinence etc.). In such cases, DJS replacement should be the main approach.

Conclusion

In the presence of negative clinical and laboratory findings suspected for PPROM, urinary incontinence should be considered. The reason for urinary incontinence in our case was DJS migration. Clinicians should be careful for the migration of this stent and possible complications in patients who were implanted DJS. The

settlement of DJS should certainly be checked during gestational follow-ups.

Conflicts of Interest: No conflicts declared.

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